Amendments to the Drawings

The attached Replacement Drawing Sheets containing Figs. 12, 19, and 22 replace the originally-filed drawing sheet containing Figs. 12, 19, and 22 of this Application. Annotated Drawing Sheets containing marked-up version of the amended Figs. 12, 19, and 22 are also attached.

Remarks

Prior to this Amendment, Claims 1-30 were pending in the present application. By this Amendment, Applicant has amended Claims 1, 4, 11, 14, 15, 16, and 27-28. No new matter was added by this Amendment. Reexamination and reconsideration in view of the amendments and remarks contained herein are respectfully requested.

I. Objections to the Drawings

The drawings stand objected to due to informalities identified by the Examiner. Applicant has amended the identified informalities and corrected drawings sheets have been provided with this Amendment.

II. Information Disclosure Statement

The Examiner has asserted that the information disclosure statement filed July 19, 2004 fails to comply with the provisions of 37 CFR § 1.97 and §1.98 and MPEP § 609 because a number of references listed in "Other Prior Art" on Form 1449B fail to list the date the reference was published. Applicant mailed a supplemental information disclosure statement under 37 CFR § 1.97(c)(2) and the corresponding fee as required under 37 CFR 1.17(p) on June 2, 2006, which was received and entered by the U.S. Patent and Trademark Office on June 6, 2006. The supplemental information disclosure statement listed each reference previously missing a publication date. As such, the supplemental information disclosure statement complies with the provisions of 37 CFR § 1.97 and § 1.98 and MPEP § 609 and the information referred to therein should be considered as to the merits.

III. Claim Rejections - 35 U.S.C. § 112

A. Claims 11 and 27

Claims 11 and 27 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. In particular, the Examiner asserts that he is unable to locate a disclosure of the limitation "creating a schema having an internal interface element that is configured to specify the usage of data resolved by an external interface element" in the specification. In response to the Examiner's objection, Application has amended Claims 11 and 27 in order to clarify the above limitation. As such, the Examiner's rejection to Claims 11 and 27 is overcome.

B. Claims 4 and 16-30

Claims 4, 11, and 16-30 stand rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. In particular, the Examiner has rejected Claims 4 and 11 due to typographical errors and has rejected Claims 16 and 30 because he is unsure of the meaning of the limitation "processing the tree beginning at the root node." As known in the art, a tree is a data structure and processing a data structure strictly means operating on the contents of the data structure (e.g., traversing a tree). For example, as described in the present application, "when a document component or, more broadly, a data structure configured according to embodiments of the invention is processed by an XML processor, processing begins at the root node (as with any other XML structure), which has the lowest precedence. Precedence is applied to override objects of low precedence with objects of higher precedence when applicable" (paragraph 66). As such, the limitation of "processing the tree beginning at the root node," is defined in the art and is also defined in the specification of the present application. Consequently, the Examiner's rejection to Claims 11, 16, 27 and 30 is overcome.

IV. Claim Rejections - 35 U.S.C. § 102

Claims 1, 12-13, 16-17, and 28-30 stand rejected under 35 U.S.C. § 102 as being unpatentable over U.S. Patent No. 6,006,242 issued to Poole et al. (hereinafter referred to as "Poole"). As discussed below in more detail, Poole does not teach or suggest the subject matter defined by these claims.

A. Independent Claim 1

Amended independent Claim 1 recites:

> A method of generating a document, the method comprising:
>
> establishing a software architecture for a set of rules to be embedded in documents, the documents consisting of a plurality of components; and
>
> creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules.

According to the Office, Poole teaches establishing a software architecture for a set of rules to be used in documents that consist of a plurality of components. Applicant asserts that (1)

the portion of Poole referenced by the Office as disclosing the above claim element does not disclose establishing a software architecture for a set of rules and (2) Poole, taken its in entirely, does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents, as recited in amended Claim 1.

First, the portion of Poole referenced by the Office merely discloses a document developer manually specifying requirements and content for documents "to be included in a document in order to meet the objections of the parties to the transaction, and to meet certain business, legal, and/or governmental rules and regulations" (col. 5, lines 1-7). Clearly, the section of Poole referenced by the Office only discloses the manual selection of document content based on an individual's personal understanding and application of rules. Therefore, the section of Poole referenced by the Office clearly does not disclose establishing a software architecture for rules.

In addition, the section of Poole referenced by the Office does not disclose establishing an architecture for a set of rules that are to be embedded in documents. In contrast, the section of Poole referenced by the Office merely discloses an individual applying their personal knowledge of business and/or government rules in order to determine document components to include in a document. The section of Poole referenced by the Office does not teach or suggest that the rules manually applied by an individual are embedded in the document components that they are selecting.

Poole, taken in its entirely, also does not teach or suggest "establishing a software architecture for a set of rules embedded in documents," as recited in amended Claim 1. In contrast, Poole discloses receiving "content [from a document developer] that is to be included in a document in order to meet the objectives of the parties to a transaction, and to meet certain business, legal, and/or governmental rules and regulations" (col. 5, lines 3-7). "Each of the constituent portions of the document is associated with an entity reference which is selected by the document developer" (col. 5, lines 7-10). After the document developer selects the appropriate entity references, "each of the entity reference [sic] associated with the document is resolved. A stream 40 of resolved entities or components is produced at step 38 at the conclusion of, or, alternatively, during the entity reference resolution process" (col. 5, lines 10-14).

As disclosed in Poole, in an initial step of creating a document, "knowledge is entered into the Knowledge Base in the form of documents, document components, document type definitions, catalogs, rules, links, and other information needed to construct any number of document and form types" (col. 6, lines 18-22). In particular, "at step 103, the knowledge is entered into the Knowledge Base in units of text or text fragments referred to as components. At step 105, the rules that dictate the access and utilization of components are also entered into the Knowledge Base" (col. 6, lines 31-35).

Clearly, Poole discloses defining document content or text to be used by in the document generation and separately defining rules that govern use of the document content. Poole does not disclose embedding rules in document content.

In addition, Poole does not teach or suggest "creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1 (emphasis added). As disclosed in Poole, after the document developer selects the appropriate entity references, "the resolved...[entities are] returned and made available for incorporation into a document in the form of a corresponding document component" (col. 7, lines 10-14). In addition, Poole discloses that a "significant advantage of the document construction methodology illustrate in FIG. 1 concerns the ability to integrate components selected from the stream 40 of components into SGML documents of varying types and styles. Document-X 44, for example, is shown as having been constructed using resolved and validated components A, B, C, and N in accordance with a first document structure and format style. Document-Y 46 and Document-Z 48 are shown as having been constructed using the same components A, B, C, and N to produce documents having differing structures and format styles. It is noted that other documents can be constructed using one or more of the components A, B, C, and N. It can be seen that any number of documents can produced with desired structural and stylistic requirements, and published in printed or electronic form" (col. 5, lines 25-39).

As further disclosed in Poole, "[i]t is noted that the format style of the document, as well as any of the document components corresponding to the resolved entity references, is typically determined after completing the resolution process, but may alternatively be determined during the resolution process" (col. 7, lines 17-22).

Therefore, although the resolved components can be manually or automatically formatted and/or incorporated into one or more documents based on a document structure or form, Poole does not teach or suggest that the resolved components or the documents that will contain the resolved components include embedded rules. In addition, as noted above, since Poole does not disclose establishing a software architecture for a set of rules to be embedded in documents, Poole clearly does not teach or suggest creating a structure that includes rules based on the architecture for a set of rules.

Therefore, in summary, Poole does not teach or suggest "establishing a software architecture for a set of rules to be embedded in documents, the documents consisting of a plurality of components" or "creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1. Accordingly, for at least the reasons set out above, independent Claim 1 is allowable and dependent Claims 2-13, which depend from independent Claim 1, are also allowable.

B. Independent Claim 16

Amended Claims 16 recites:

> A method of assembling a document from a group of components, the method comprising:
>
> creating a transaction data set;
>
> retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules;
>
> processing the one or more cross-referenced document components in a processor to generate a tree having a root node;
>
> processing the tree beginning at the root node; and
>
> when a rule is encountered, evaluating the rule and replacing it with a value.

As described above with respect to Claim 1, Poole does not teach or suggest "establishing a software architecture for a set of rules to be embedded in documents, the documents consisting of a plurality of components." Therefore, Poole clearly does not teach or suggest "retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules,"

as recited in amended Claim 16. Furthermore, the section of Poole referenced by the Office as disclosing the above claim element merely discloses resolving each entity reference in order to produce "a stream 40 of resolved entities or components...at the conclusion of, or, alternatively, during the entity reference resolution process" (col. 5, lines 11-14). The section of Poole referenced by the Office also discloses that "[i]t is important to note that the entity reference resolution process of step 36 ensures that all business, legal, and governmental requirements applicable to a particular entity reference are duly satisfied. The resolution process thus produces content fragments having integrity by virtue of being compliant with one or more business, legal, or governmental requirements. At step 42, one or more of the components or fragments of the stream 40 are made available for constructing one or more documents having a desired structure and format style" (col. 5, lines 15-24).

Clearly, the section of Poole referenced by the Office merely discloses resolving entity references specified by a document developer to document components wherein the resolution process adheres to business and/or governmental rules. In error, the Office equates the resolved entities disclosed in Poole with the "one or more cross-referenced document components... configured to include one or more embedded rules," as recited in amended Claim 16. As evidenced by the section of Poole referenced by the Office, the resolved entities generated in the Poole system are completed document components that are ready to be placed in documents. Since the resolved entities are ready to be incorporated into documents, they cannot include embedded rules. Therefore, the section of Poole referenced by the Examiner does not teach or suggest "retrieving one or more cross-referenced document components..., the one or more document components configured to include one or more embedded rules," as recited in amended Claim 16.

In addition, Poole, taken in its entirely does not teach or suggest retrieving document components including embedded rules from a database. In contrast, as described above with respect to Claim 1, Poole discloses storing document components in a knowledge base separate from rules stored in the knowledge base. In particular, Poole discloses that "at step 103, the knowledge is entered into the Knowledge Base in units of text or text fragments referred to as components. At step 105, the rules that dictate the access and utilization of components are also entered into the Knowledge Base" (col. 6, lines 31-35). Therefore, although Poole discloses using rules during the resolution process in order to determine document components, Poole does

not teach or suggest retrieving document components, which include embedded rules, from a knowledge base.

Accordingly, for at least the reasons set out above, independent Claim 16 is allowable and dependent Claims 17-27, which depend from independent Claim 16, are also allowable. Similar rationale can be applied to independent Claim 28, as amended, and the claims that depend on Claim 28. Therefore, Claims 28-30 are allowable for the at least one or more of the reasons set forth above with respect to Claim 16.

V. Claims Rejections – 35 U.S.C. § 103(a)

Claims 2-11, 14-15, 18-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Poole in further view of printed publication "XML in a Nutshell" authored by Harold et al. (hereinafter referred to as "Harold").

A. Independent Claims 14 and 15

Amended Claims 14 and 15 recite, *inter alia*:

> A method of generating a document, the method comprising:
>
> establishing a software architecture for a set of rules configured to be embedded in documents by creating a schema having a conditions element, a choose element, an iterators element, a functions element, and an external interface element that is configured to be resolved into a value;...

As described above with respect to Claim 1, among other elements, Poole does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents. Harold does not cure the deficiencies of Poole. In contrast, Harold merely discloses standard elements and functions associated with the extensible markup language ("XML"). Although Harold may disclose means for establishing an architecture for a set of rules (e.g., the architecture may be based on XML), Harold makes no mention whatsoever of establishing an architecture for a set of rules, wherein the rules are to be embedded in documents. Therefore, independent Claims 14 and 15 are allowable for at least the additional reasons set forth above.

B. Dependent Claim 2-11 and 18-27

Dependent Claims 2-11 and 18-27 depend from independent Claims 1 and 16 respectively and, therefore, are allowable for at least the reasons set forth above with respect to Claim 1. Nonetheless, Applicant provides additional explanation regarding the allowability of these claims.

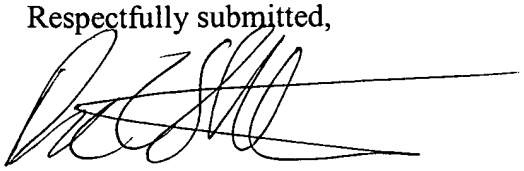
As noted above, Poole does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents" or "creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1. As also noted above with respect to Claim 16, Pool does not teach or suggest "retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules," as recited in amended Claim 16. Harold does not cure the deficiencies of Poole. As described above with respect to Claims 14 and 15, Harold does not teach or suggest establishing a software architecture for a set of rules, wherein the rules are to be embedded in documents. In contrast, Harold merely discloses standard elements and functions associated with the extensible markup language ("XML"). Therefore, Claims 2-11 and 18-27 are allowable for at least the additional reasons set forth above.

VI. Conclusion

In light of the above, Applicant believes that the application is in condition for allowance and respectfully requests that a timely Notice of Allowance be issued in this case. Applicant also

requests that the Examiner telephone the attorneys of record in the event a telephone discussion would be helpful in advancing the prosecution of the present application.

Respectfully submitted,



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ANNOTATED SHEET

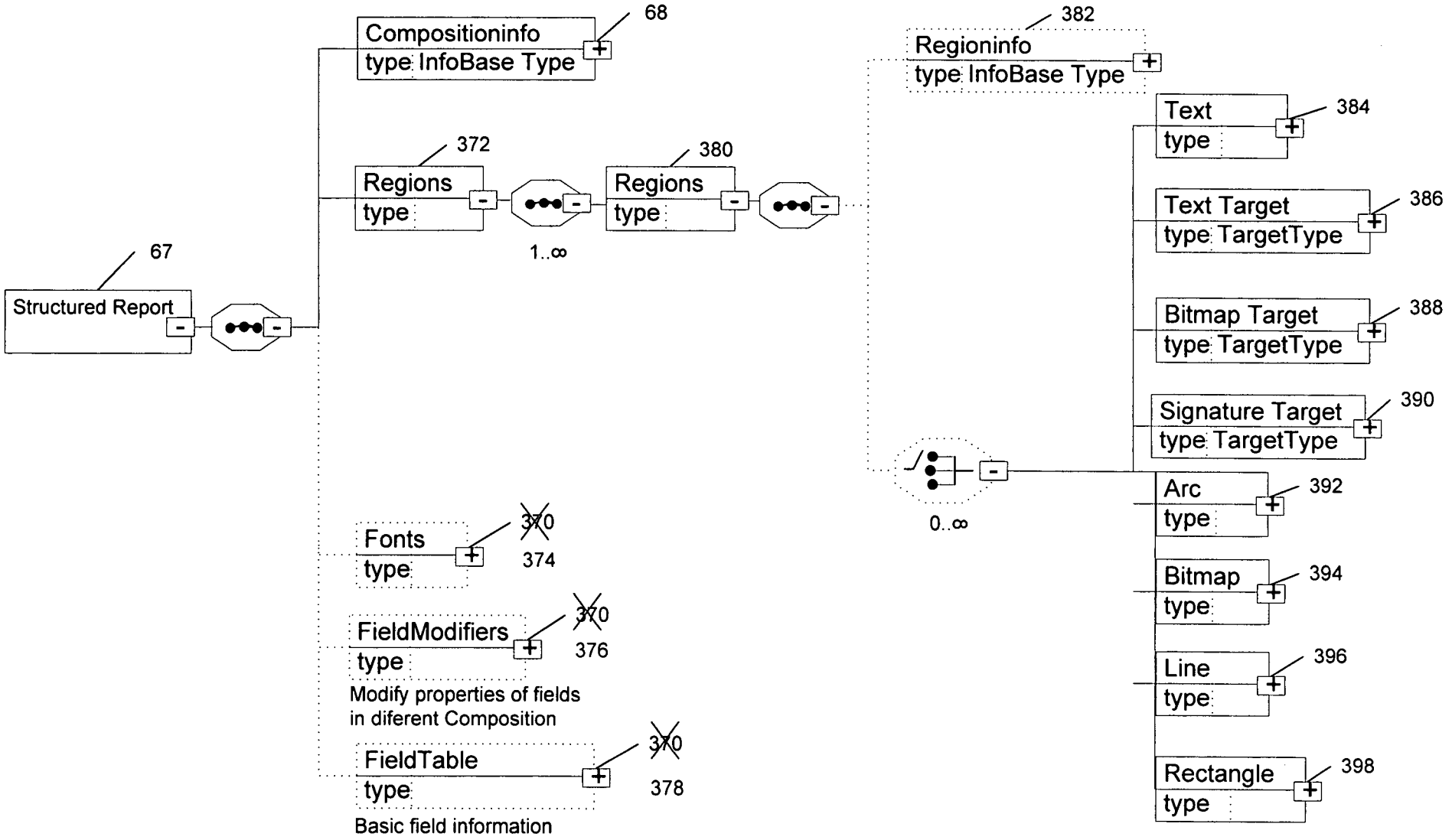

Fig. 22

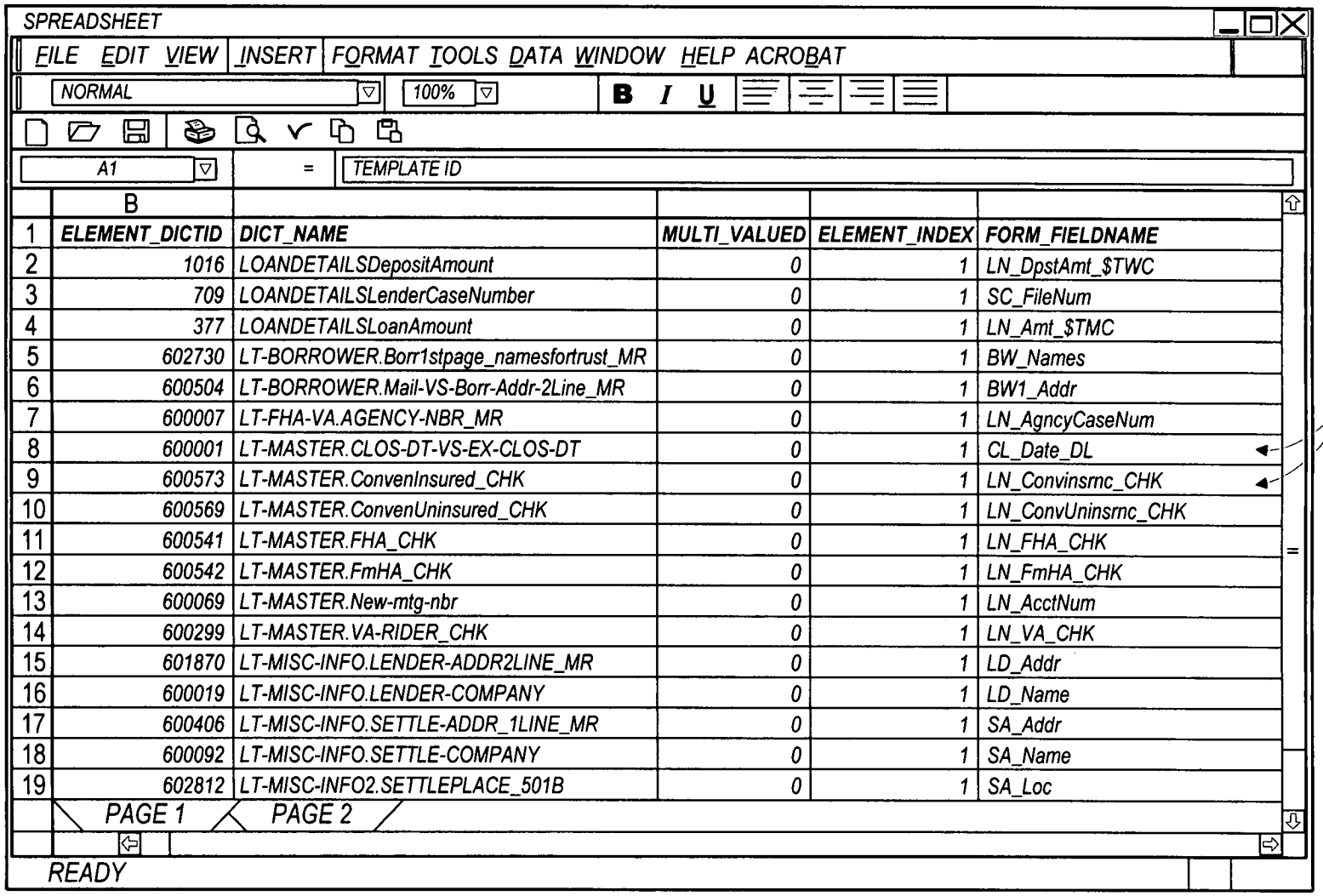

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FIG. 19

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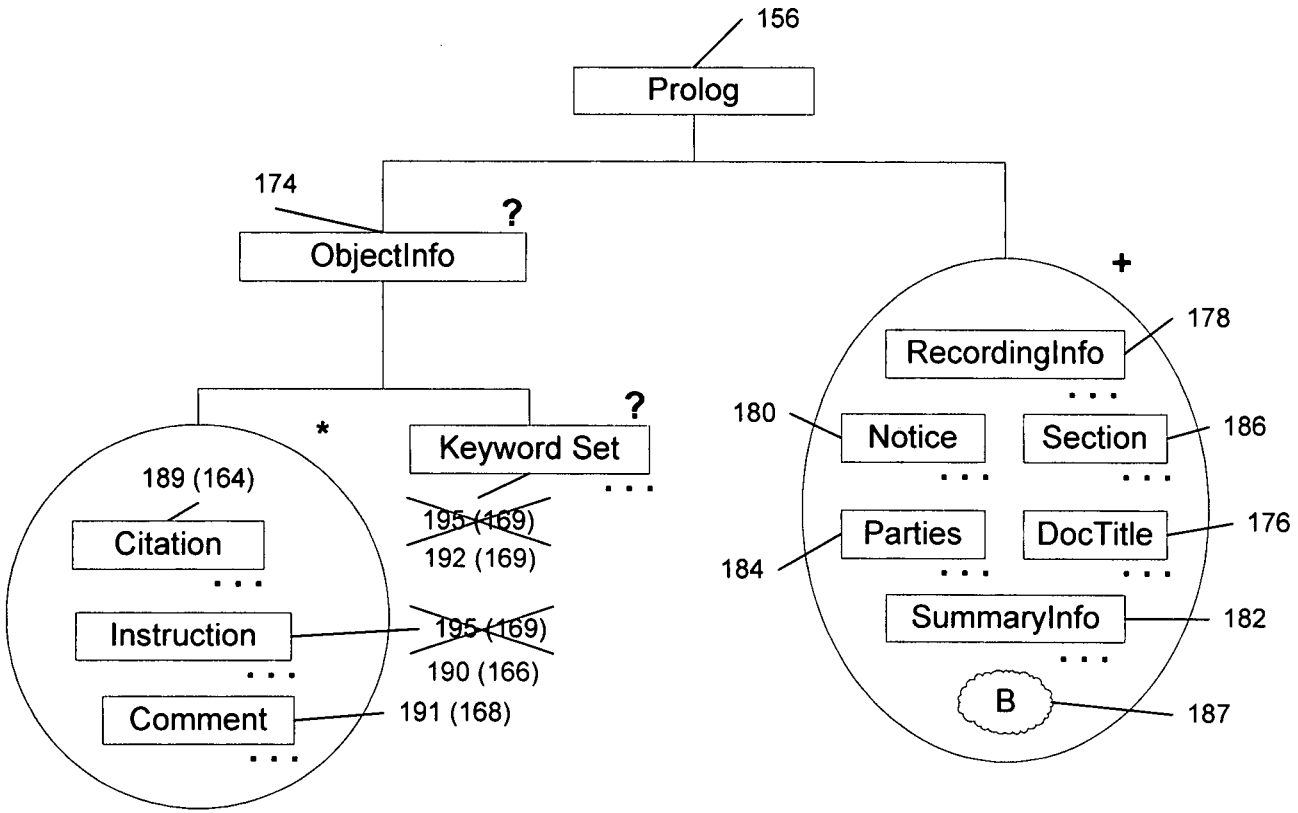

Fig. 12